# Compton Lab '704' Will Compute Mass Exodus From Dorms ${\it Is Feared By Administration}$ Orbit Of Satellite Sometime Today

### **IS Satellite To Give** 48 Pieces Of Info

Speaking to a full house in Kresge last evening, Dr. N. Whitney last evening, D. Mathews, in charge ing devices on the ject vanguard, commisian moon and descript the US project.

He replaced Dr. chief of project Vander o Wathews, in charge of the telemetering devices on the US satellite proiect vanguard, commented on the Russian moon and described the operation

He replaced Dr. John T. Hagan. chief of project Vanguard, who was scheduled to speak until the news of the Russian satellite came in. Since then he has been working day and night gathering information on that

Mathews, in a press conference before the speech, stated that so far it is not known whether the projectile s relaying information with its radio signals. The signals are now being put on an oscilloscope and being photographed, in order to determine the presence of high frequency informa-

The satellite is transmitting with a power of one watt on the 20 and 40 megacycle bands. Mathews said the signal could be picked up on a slightly converted FM receiver.

"Even if it were sending information," he said, "it would be coded, and we wouldn't have a ghost of a chance trying to decode it."

When asked about the unexpected large weight of the foreign moon, he stated that we do not know whether the third, and final, rocket was detached from it when it reached the orbit. This addition, of course, would add much weight.

In answer to the question, "How far ahead are the Russians?" he stated, "They have a satellite-we don't." He explained, however, that we have



N. Whitney Mathews, representing Project Vanguard, speaking in Kresge last night.

at least one such device which could be launched, but that at the present time it was going through very extensive testing.

At the time of the speech, the MIT IBM 704 was grinding away in orbit calculations. The MIT calculations will help ascertain such facts as its orbit, and whether it is slowing down.

Mathews said that the first US satellite, to be launched from Florida, will be much more complex than the Soviet device. It will contain a 48 channel telemetering circuit which will send data concerning weather, collisions with particles, and radiation from the sun. Later satellites will measure cosmic radiation, and transmit surface erosion data. He stressed, however, that just having a satellite can give much information concerning the outer atmosphere from path characteristics alone.

# Scientists Ready With '704' When Russia Shot Satellite

As the news that Russia had launched an artificial satellite of Earth broke over North America the night of October 5, a group of MIT and Harvard scientists were ready with MIT's IBM 704 computer to track the satellite if possible. They were disappointed, however, for this reason: the orbit of the "moon" is so planned that it will be invisible whenever it is over the United States, and in fact most of the Western Hemisphere.

Visible Only At Twilight

The satellite, less than two feet in diameter, is for the next two weeks, visible only at twilight, as it then reflects the sun's light against the darkening backdrop of the sky. The satellite will not be over North America at twilight.

Moonwatch Network Useless

Operation Moonwatch—a division of the Geophysical Year, with 150 visual, radar, and radio tracking stations-is, therefore, out of the picture as far as tracking the Russian satellite is concerned. MIT's Computation Center is ready to handle any information it can get on the satellite-possibly radio or radar might te the answer here—but so far there have not been enough reliable reports to make a run on the IBM 704 worthwhile. (An unverified visual report from Alaska was received in Cambridge as The Tech went to Press the night of October 6.)

U.S. Satellite Will Still Be Fired

But, as MIT's Professor Dean Ar-

den points out, "All this is no reason that the United States cannot go on with its plan for launching a satellite." The satellite the United States will fire will orbit at a different course and altitude—an orbit such that the one hundred-fifty Moonwatch stations will be able to observe it. The procedure then followed for tracking the satellite would be based on the principle of "feedback".

Moonwatch Operating Procedure The Moonwatch stations would send all reports, photographic or visual sightings, to the Harvard Observatory in Cambridge. From the Observatory the information would be funnelled to the Computation Center in the Karl Taylor Compton Laboratories here at the Institute. With the number of these reports which would be available from the Moonwatch network, the 704 could "observe" the satellite's course and predict the moon's orbit for the next eighteen to twenty-four hours-after which time another calculation would be run off to determine the course

for the next period. Important Stride In Science

In this way small but not entirely negligible changes in the "moon's" orbit will be recorded and taken into account, and a fairly accurate picture of the present and predicted orbit of the Earth's new satellite will be obtained. Such a record would constitute one of the most important strides man has yet made in the conquest of space.

### False Sighting Data Curtails First Effort

by Stephen M. Samuels

The first accurate calculation of the orbit of the Russian satellite will be made on the Institute's IBM 704 Computer, but, as of today, announcement of the orbit is still forthcoming.

The first attempt to calculate the orbit failed last night because the data used was inaccurate. The data came from three separate sightings of the satellite-two at Fairbanks, Alaska, and one at Canberra, Australia-and consisted of the position of the satellite and the time of sight-

The team of scientists who ran the program last night, led by Dr. Gianpiero Rossoni of IBM and Dr. Donald A. Lautman of the Observatory, had hoped to plot the complete path of the satellite, including its maximum and minimum height above earth. From the minimum height they would have been able to make a rough estimate of its life span.

#### Sighting the Error

However, when the data was fed into the "704", the computer failed to give proper answers. This, according to Dr. Lautman, indicates that at least one of the sightings was not accurately made or, in fact, was not even a true sighting at all. He believes that an airplane or some other object may have been mistaken for the satellite.

Now scientists must wait for another sighting, process the data from it and feed it into the "704" again. Dr. Fred L. Whipple, director of the Observatory has alerted the IGY World-Warning Center and more data is expected today.

The correlation between height of the satellite and its life-span, accord ing to Dr. Lautman, is this: If the minimum height is 150 miles, the satellite will burn up in the atmosphere in less than two weeks. However, if the minimum height is 200 miles, the satellite might last as long as two months.

This is just a guess, he said, and actual determination of the satellite's life-span is one of the prime objectives of the launching. Such a determination would greatly supplement our presently skimpy knowledge of the density of the upper layers of the atmosphere.

### MIT Orbit Will Be First

Dr. Whipple said yesterday that "We doubt that the Russians know the maximum and minimum distance of the satellite from the earth." Thus, the MIT announcement of the orbit, expected soemtime today, will be the first in the world.

The satellite is only visible during the period of sunrise and sunset. According to Dr. Whipple, it will be about two weeks before it passes near Cambridge during those hours. The satellite did pass within 150 miles of here at 8:03 this morning and listeners who had their radios tuned to either twenty or forty megacycles were able to pick up a signal from it.

Newspapermen, at the Computer Center, representing nearly every big paper in the country, were inclined to blame the "704" for its failure to produce an orbit. But Dr. Lautman told them that the computer had done the best it could and that the fault lay with the human machine.

#### attractive as possible to the student body, according to Chancellor Stratton. However, he believes that at present, "the climate (in the dorms) does not appeal to the best elements of the student body." Dr. Stratton is disturbed by the possibility of a "mass exodus" of upperclassmen from dormitories to apartments, a move which he does not concede

The Institute is directly committed to making the dormitory system as

has already begun, but which, he forecasts, would "raise the serious question of campus morale. Such a move, he says, could only lead to a deterioration of inter-group relations

throughout the Institute." Non-European Viewpoint

MIT-and, in fact, no American college-can afford to adopt wholly

the European viewpoint that student housing is the business of the student, not of the college, Dr. Stratton feels. The character of American education, and of the American city, is such that, even within the confines of his home-away-from-home, the student is not separated from the educational system. Thus the success of the system depends, in part, on the "succass" of the student housing environ-

Accordingly, Dr. Stratton points out, the Institute has, for the past forty years, been "moving toward a residential system", aimed at the day when virtually the entire student body will live on the campus.

Student "Free Will"

Such a system, he is quick to add, will never be forced on the student body. "Students should always have the right to choose between on-campus and off-campus accommodations," he says. In the past, there has always been a sizeable number of upperclassmen who took apartments simply out of curiosity, and this, Dr. Stratton notes, will continue to be so.

But he frankly believes that much moving out of the dorms can be traced to a lack of congenialty and condusiveness to study within them, and to a sometimes low intellectual and moral level. And these factors, he adds, can often be traced to physical factors like the unwieldy size of the dormitory buildings.

Referring to the Institute's acquisition of such large buildings as Burton and Baker, he says, "I only wish we had been able to do it another

### Waiting List Of 50 In Dorms Despite Upperclass Exodus

Nearly five hundred upperclassmen deserted the dorms again this year, and swarmed into rooming houses and apartments throughout the Boston area. (One former Baker resident is now collecting seashells at Revere Beach). Other statistics released by the Housing Office showed significant changes in the composition of the student body this year.

More Pledges

While the number of first-year students admitted for this fall term was the lowest in years, only 913, the number of fraternity pledges, 312, rose. Last year with a new class of 942 students, there were only 291 pledges and about 400 men living in apartments. These figures do not include those commuting from home.

Surge Only A Week Since it usually takes several weeks for housing plans to get completely organized, Frederick G. Fassett, Dean of Residences, was surprised that the "surge tank" lasted only a week this year. He felt that this was due to the fact that pledging and transferring from the dorms was much faster than in previous years. While all freshmen, with the exception of 18 Greater Boston men, were given the facilities they desired, there are still fifty upperclassmen on the waiting list; none of these, it was emphasized, had been

forced to move out of the dorms. Valuable Men Lost

The move to apartments is causing much concern in some circles, for, not only is the idea of a "residential campus" dissolving slowly, but some of the men who could do much for the dorms are moving out.

# MIT Prepares For Flu Epidemic; Vaccine Supply Reported Limited

Asian Flu is presumably beginning to spread fairly rapidly on the MIT campus. The Infirmary is already loaded to capacity, which seems to be the situation through the Boston schools. According to Bob Jordan, IFC President, it is expected that there will be a large number of cases in the next ten days to two weeks. The medical exams have been moved into the Field house to provide additional space for treatment at the Homberg Infirmary.

### Is It Really Asiatic Flu?

One question which arises is the problem of whether this is actually the Asian Flu or another type virus which has hit this area. All the symptoms seem to point to it except one, that being that most cases in this area are lasting only two days where the actual flu is supposed to last four. All of the schools in this area have sent samples to the state, but as yet none has been thoroughly analyzed, and there is still the possibility of the series of illnesses being due to an entirely different virus.

### Plans Made For An Epidemic

The Medical Department has set up the following plan to cope with the epidemic, if it reaches these pro-

portions in this area. As far as possible men stricken should stay in their rooms or fraternities. The Medical Department should be notified so that doctors and nurses may make visits. In case an entire house or portion of a dorm becomes ill, the entire group will be moved to Walker. At this point, the Medical Department does not feel it necessary to cancel social or athletic events.

The flu is not to be greatly feared, and there is absolutely no need for panic, it is, however, not something to be taken too lightly as complications may arise. The illness itself is characterized by malays of headaches, nasal congestion, complete muscular ache and just plain mis-

### Vaccine Is Still Scarce

The possibility of getting shots is slim; only regular city hospitals, key industries, and city officials, etc. are receiving vaccine. Other than the Harvard football team, students are finding it exceedingly difficult to receive this precious serum. Conditions favorable to the spread of the disease are cold, damp days, which was illustrated in New York City when the rate went up tremendously with a change in weather.

The



# Tech

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### letters

September 28, 1957

Editor of M.I.T. Newspaper

M.I.T.

Boston, Massachusetts

Dear Sir:

I am in a strange situation and would like to have your help in finding a solution to my problem if this is possible. I am not familiar enough with your school's extra curricular activities to know if you are allowed to do what I would like for you to do.

During the past summer I met a boy, who said that he was a junior at M.I.T. but I do not know his last name. So I would like for you to run an ad or whatever you choose to call it in your newspaper if you think that this is all right as follows:

To a Junior: Joe

Where is the letter you said you would write? It is impossible for me to write you as I do not have your address.

Delaware Sincerely yours,

Bev.

P

P

Who Done 11??-Ed.

### kibitzer

	S—K 8 5 H4 2 DA J 9 7 5 CA 7 2	,	
S—Q 9 H—K Q 10 9 8 D—10 6 C—Q 8 6	N W E S S—A 7 6 3 H—A J 3 D—K 3 2 C—K 5 4	H- D-	—J 10 4 2 —7 6 5 —Q 8 4 —J 10 9 3
The bidding:			
N	E	S	W

Opening lead: King of hearts

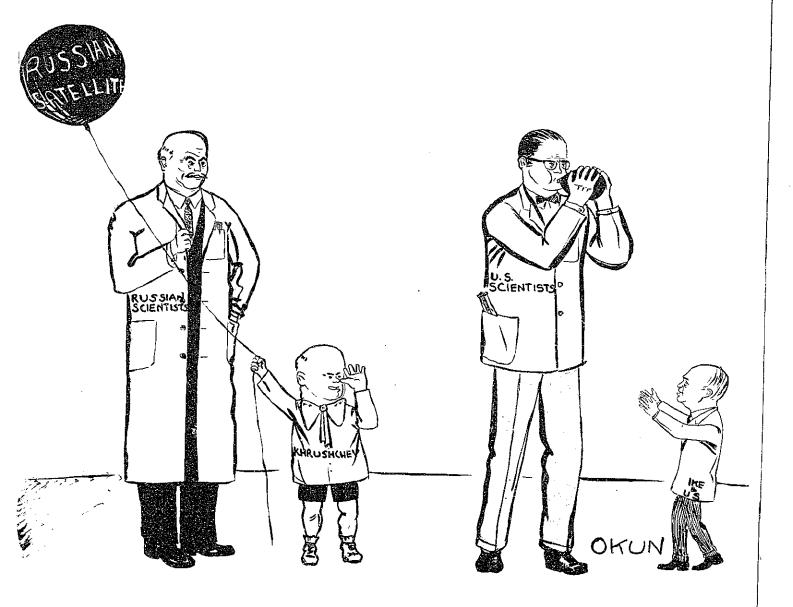
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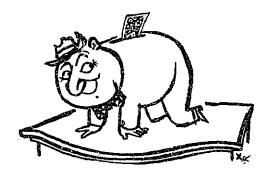
An abundance of high cards did not prevent South from finding a way to go down on this week's hand. Two bad plays were necessary, and declarer rose to the occasion at each opportunity.

The play of the hand was short, but not sweet. West's king of hearts was gobbled up by the ace, at which point declarer decided the contract depended on the diamond finesse. East won the queen of that suit, returned a heart, and after four more tricks had been cashed by the defense, the hand was spread for down one.

The key to the correct play of the hand is the prevention of a heart lead by East, through declarer's tenace, before nine tricks have been established. Thus, the first heart lead should have been ducked, leaving West in the lead. West must switch suits, lest the jack of hearts win a trick, after which South will take the losing diamond finesse, win the heart return, and claim four diamonds, one heart, two clubs, and two spades for his contract. Having failed to do this, another opportunity for fulfillment of the contract is still available. If East can be found with less than three diamonds to the queen, or West with the doubleton ten, declarer's jack of hearts can be safeguarded against the finesse. Hence, the correct play of the diamond suit is the lead of the jack through East. If West has the queen, he cannot return hearts. If East covers the jack with the queen, the king is put on, and the ace is played on the next trick, with the hope that either East has no more than two of the suit, or West has the doubleton ten. As long as East can be kept out of the lead, the contract remains safe.

-Fred Golenzer '58





### THE LITTLE SAVER

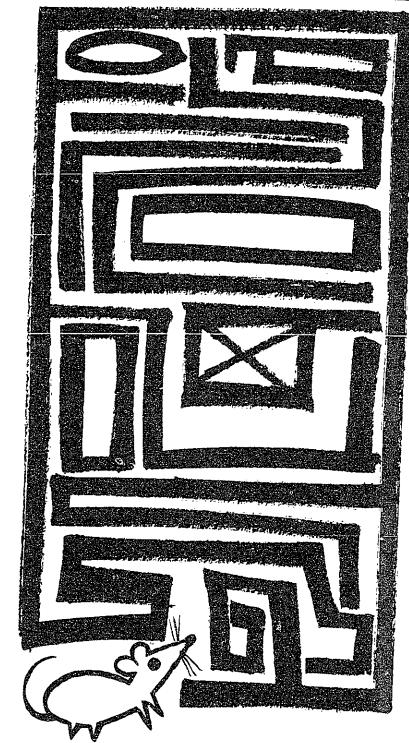
Among America's great savers, George T. Coffee is a legend. One day, George discovered that by going to sleep with his shoes on, he could save a full 60 seconds dressing in the morning. Multiplying this by 365 days—gave him over 6 hours saved per year. Then, multiplying this by 8 years-gave him 48 hoursor two full days saved! George was giddy. "Think of it," he mused. "Two full days saved to do anything . . . read, sleep or go to Europe!"

Another time, George passed a store that advertised "Save \$50 When You Buy These \$100 Suits!" George immediately saw the fantastic opportunity...realizing that he could save \$100 by not buying any of these suits. Thereupon, he proceeded not to buy ten suits and rolled up a tidy \$1,000 in a few seconds.

However, the best saving George ever did by far—was when he happened on the Van Heusen Vantage Shirt. Vantage is a shirt you don't have to iron . . . so you save on laundry bills. Wash it—hang it up to dry—that's all. "So what," you sneer, "aren't there other shirts that can do the same thing?" "Mebbe." we sneer, "but Vantage is a cotton shirt—with all of cotton's natural softness, porosity and comfort. And it only costs \$5!"

Men—grab a pencil in your fist. Figure out your laundry bill for shirts for a year. Then figure out the price for seven Vantage shirts. You'll find that Vantage shirts actually pay for themselves in the laundry bills you save! See you at the bank.

P.S. You can also save yourself the trouble of searching for lost collar-stays. For Vantage shirts have Collarite sewn-in stays which can't get lost, keep the collar neat, always.



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# President Killian Releases Annual Report For 1956-1957

Fresident James R. Killian, Jr. yesmay released his ninth annual reof the affairs of MIT. The "Reort of The President" will be sent all Institute students, and it covthe year ending October 1, 1957. Policies and Activities

In his report President Killian reows the "policies and activities of Institute in their relation to the tional setting, recording our reto the nation's changing reimments and accounting for our wardship of the private foundaon we administer to serve the naon's educational and research

Institute's Relative Standing

President Killian examines MIT molicies, priorities, and needs" in Imparison to The Second Report of resident Eisenhower's Committee on ducation Beyond the High School hich was published last July. He poses what he considers the topics the Committee's report which are ertinent to an institution such as IT and discusses the Institute's anding in relation to these topics.

Review of Past Year The President's report covers topsuch as Institute policies toward schers' salaries and benefits, need student aid, admissions, and longage goals and plans. About half the President's report deals with "review" of the past year on the nics of educational problems and portunities, new Institute facilities, ministrative appointments, and fances. President Killian closes his port with a letter in which he disises vital undergraduate level func-

### KeepStandardsHigh, Stabilize Enrollment Says Prexy's Report

In the "Report of The President", the topic of Admissions in regard to MIT, and a comparison of the Institute's policies on admission to those of President Eisenhower's committee is discussed.

Eisenhower's committee stated in their second annual report that it "does not agree with those who argue that, in order to preserve quality, colleges must sharply restrict enrollments to something like their present level by boosting admissions standards . . ." President Killian says that in this statement the Committee is speaking of the overall national situation, and he goes on to say that with this he agrees, but that there is need to differentiate between institutions of varying levels of intellectual performances. He says that there is an "acute need for a group of institutions (and MIT numbers itself among this group) who set their standards very high." President Killian also says that there is no present danger of any institutions pushing their standards too high. He points out that the most selective of the institutions of the United States have still not achieved the student bodies of same intellectual maturity and capacity of some European institutions.

Selection Techniques Inadequacy of selection techniques fore quantity.

such as those concerning appraisal of nonscholastic qualities, President Killian says, is one of the main reasons for the Institute's concern.

President Killian says that as the level of selectivity rises, the opportunity of admitting a student body with intellectual competence as its "common denominator" and with variety of types and personalities, must not be missed.

Doubled Enrollment in Past

In the past decade the size of the Institute enrollment has nearly doubled. At present, however, President Killian says that MIT's aim is to "stabilize the enrollment, in order to permit our resources to catch up with our growth and thus to insure the continuing excellence of our education." He goes on to say that the Institute feels that it can best serve the nation by keeping the present level of educational quality instead of sacrificing this for an increase of enrollment.

Quality Before Quantity

President Killian goes on, however, to acknowledge the fact that some growth is both "inevitable and desirable." He says that with the increase of fields of study such as nuclear engineering and industrial management and with the growing need for greater graduate level education this growth is sure to come. There is, however, the problem of finances though he mentions, and this is necessary for the high-quality staff and facilities. In closing, the President says that even though there is this inevitable increase in growth, MIT's responsibility is to put quality be-

# More Benefits For Faculty Urged; Teachers Needed At College Level

The report states that "The Committee recommends to every board of trustees . . . 1. that the absolute highest priority . . .; be given to raising faculty salaries . . . with particular attention to increasing the spread between the bottom and the top . . . 2. that action also be taken to provide at moderate cost such benefits as health and life insurance, etc. . . . the average salary of our assistant professors has been increased 15.5%, that of full professors 15%. We have thus achieved moderate gains, but those are not enough."

President Killian mentions that for two years the Institute has experimented with making monetary rewards for outstanding performance to members of the faculty.

The report states, "The Committee urges the faculty of every college and graduate school to join . . . in a nationwide effort to recruit undergraduates and graduates of high talent for college teaching." It goes on to say that the number of graduates seeking teaching careers is small in comparison with the need. The Presidents Committee says that "high powered recruiters descend upon campuses these days for nearly every career but teaching."

"The training of highly qualified men at the doctorate level," writes Dean Richard Soderberg of the School of Engineering, "is clearly one of the

most important tasks in engineering education, both for industrial development and for education itself."

### Support To Increase With Tuition Raises; **Urges Local Support**

In his report, President Killian states that "Private institutions, as they improve faculty compensation and meet rising costs of operation, will inevitably have to increase student fees." However, he points out that "This cannot be done unless student aid is increased."

The report states that MIT will loan about \$500,000 to its students. both graduate and undergraduate in 1957. In the past 98.4% have paid back their loans on time at the rate of 1% per year. However, President Killian points out that many students are averse to borrowing money for education while their parents will readily borrow money "in order to buy a host of family luxu-

The Presidents Committee "finds that presently available scholarships are grossly inadequate . . . recommends that private, local, and state sources increase their support of scholarship funds to several times the present number and amount and number of scholarships . . . that scholarships should include (when feasible) provisions of funds for the institution . . . to pay for the cost of educating the student above what he pays through fees and tuition."

He estimates that MIT should add about \$1 million per year to its cndowment funds for fellowships and scholarships during the next ten years.

The Presidents Committee recommends that "Charges to students in private institutions in general be gradually increased in order to at least maintain the proportion of total cost paid by students; and that programs of student assistance be stepped up to support increases in tuition and other charges.

The committee recommends "An experimental federally supported work program for students. The idea that students be given the opportunity to help themselves by working is very sound, and MIT makes jobs an integral part of its student aid program."

He points out that MIT's work program has more jobs than takers, and student earnings now total over \$400,000 per year, exclusive of salaries paid to grad students.

### Improvements In All Fields During '56-'57

In his review of the year in general, President Killian mentioned many advances made by the MIT community in the past year.

In particular he pointed out the new program adopted by the department of Chemical Engineering which "Greatly increases the choices of subjects available to students by replacing many requirements with electives in the upper years."

The Civil and Sanitary Engineering Department seeks to "Relate the basic analytical work of the curriculum to its professional context", by introducing students to as early as their Sophomore year to serious professional problems.

He mentioned the launching of Electrical Science and Engineering "for a highly selected group of students."

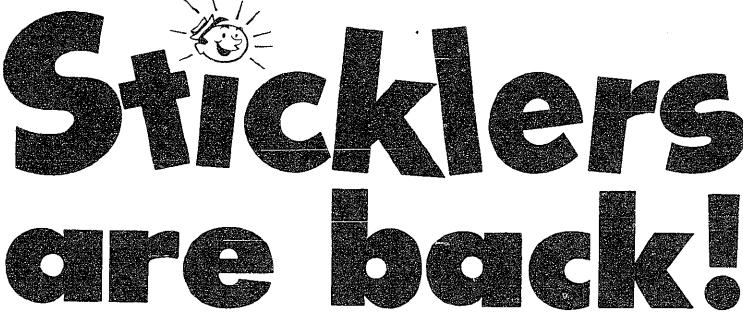
Also mentioned was the Mechanical Engineering department's new curriculum in the field of nuclear power engineering, the Physics department's efforts to make undergraduate laboratory work more effective, and the creation of a Political Science section in the Humanities department.

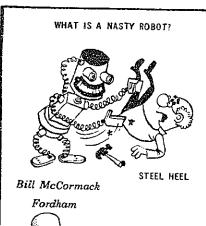
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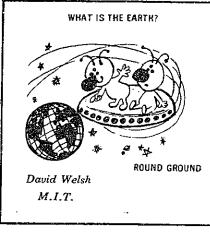
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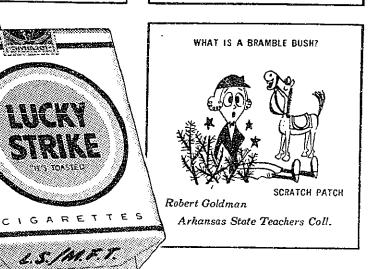






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# Inscomm Advisory Councils Plan To Investigate Problems At MIT

Institute Committee has formed several internal advisory councils to investiage specific problems at MIT. Acting on the recommendation of Committee president Arnie Amstutz '59, Inscomm plans to find out where and why past activity in this realm has not always been successful. With this information they will then form definite methods of attack.

The first council formed will infaculty and the students. Executive Committee will contact members of the teaching staff and Liaison Committee will transmit the information.

A tentative agendum of another council includes the problem of Inscomm publicity. This group plans to study a systematic and effective use of The Tech and WTBS to acquaint MIT men with the activities of the Institute's student governing body.

The cumulative average system of figuring a man's standing will be scrutinized. A group will find out what the faculty thinks of the cum, and what other grading systems could be used if the cum is abolished as the measure of scholastic standing.

The pros and cons of adopting a tutor-like method of teaching in the advanced classes will be examined. The attitudes of instructors and students, administrative difficulties and other aspects of the proposal will be dis-

Another council will look into the design of the senior ring. Possibility of a design change will be the main topic of discussion in this group.

Activities of the National Student Association will be the topic of study vestigate communication between the in another group's meetings. The methods and progress of higher education on other campuses across the country will be discussed. Recommendations will be made to the Institute if anything worthy of attention is found.

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# FavoritesDominateIntramuralFootballStarters Fulbright Grant Betas Romp, Sailors Win, Fijis Edge Grad House End November 1

League I

Using their vaunted passing attack to great advantage, Sigma Alpha Epsilon bounced Alpha Epsilon Pi 20-6, aday afternoon. Although the losers registered the first touchdown of the game, their lead did not last long. The ws' aerial offense, sparked by tailbacks Walt Humann '59 and Lou Bangert '58, swung into action to tally twice the end of the half on passes to Bob Thompson '58 and Fred Browand '59. Thompson snared another toss late in

the game to round out the scoring.

In the other Sunday League I encounter, Sigma Chi trounced Pi Lambda Phi 20-0. The victors tallied once in each of the first three periods to get the decision. Jim Long '60 threw to Mark Jensen '60 for the initial score late in the opening stanza. Fred Morefield '57 blocked a Pi Lam punt and then fell on it for a t.d. just before the end of the half. Long hit Larry Flanagan '57 for the final

#### League II

Displaying powerful ground and aerial attacks, Beta Theta Pi trounced Phi Kappa Sigma 47-0, Sunday. The hard-charging Betas left their opponents very little time to pass, and offectively throttled the PKS offense.

The victors' Jim Russell '59, getting excellent blocking, scored the first two of their seven touchdowns. Frosh quarterback Gordon Gilbert then hit Tony Aldrich '60 in the end zone, and followed with a t.d. run himself. In the third quarter, Russell tallied again. Gilbert tossed two more scoring aerials to complete the rout.

With a touchdown pass in the first period, Delta Upsilon toppled Sigma Alpha Mu 6-0, in a hard-fought game Sunday. The DU attack was led by John Roberts '61, who hit Bob Shelton 60 in the end zone for the only score of the game. Although the Sammies had several opportunities to tally, they were unable to start a sustained

#### League III

Led by the passing of Dick Beale '58, Theta Chi downed Sigma Alpha Epsilon 15-2, Saturday afternoon. Paul Repetto '58 and Mac Jordon '58 were the standouts for the Sig Ep offense, which was halted by the winners' powerful line.

With Dan Holland '58 doing double work passing and receiving, Delta Tau Delta tripped Alpha Tau Omega

15-0, on Saturday. The Delts countered early as end John Crissman '61 snared an aerial from Holland. In the second half, Mike Haugh '59 tossed to Holland who romped to paydirt.

ATO's failure to tally can be attributed mainly to the brilliant defensive work of Joe Tims '58, who broke up their pass plays.

League IV

Sparked by a group of seasoned veterans, Phi Gamma Delta edged a tough Grad House squad 14-12 last Saturday. The Fiji line offered good protection to quarterback Al Beard '59, who varied his plays well enough to push across two t.d.'s and the pair of extra points. Chuck Hughes, offensive and defensive standout for the losers caught the two scoring passes and accounted for almost all their yardage gained.

The Fiji's first drive for pay dirt was climaxed by a pass from Beard to freshman end Al Gaston. Beard tossed again for the all important extra point. Grad House bounced back as Paul Zanet threw a scoring aerial to the clusive Hughes, but they missed the point after attempt. Hal Smith '57 accounted for the victors' other score with a long run early in the third quarter.

Exhibiting an impenetrable defense, Sigma Nu checked a tough Phi Delta Theta passing attack to eke out a 6-0 victory. The only touchdown of the game was scored when Paul Ekberg '58 hit Richie Johnson '58 in the end zone, midway in the second period.

Division B League V

Phi Mu Delta 13

Delta Kappa Epsilon 0 Phi Beta Epsilon 12

Theta Delta Chi 9

League VI

Baker House 13 Lambda Chi Alpha 0 Phi Kappa 6 Kappa Sigma 0

League VII 5:15 Club 20 Theta Xi 0 Chi Phi 0 Grad. House Dining 0 (Chi Phi won on first downs in the

second overtime). League VIII

Student House 2 Phi Kappa Sigma 12 East Campus 0 Competition To

Competition for Fulbright and Buenos Aires Convention scholarships for graduate study abroad for 1958-59 will close November 1, it was announced by Kenneth Holland, President of the Institute of International Education.

Fulbright awards for pre-doctoral study and research in Europe, Latin America and Asia cover transportation, tuition, books and maintenance for one academic year. The Buenos Aires Convention scholarships provide transportation from the U.S. government and maintenance from the government of the host country.

#### Eligibility

Eligibility requirements for these foreign study fellowships are United States citizenship, a college degree or its equivalent by the time the award will be used, knowledge of the language of the country of application sufficient to carry on the proposed study, and good health. Preference is given to applicants not more than 35 years of age.

Countries where U. S. graduate students may study under the Fulbright Act are Australia, Austria, Belgium, Burma, Chile, Denmark, Finland, France, Germany, Greece. India, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, the Philippines, and the United Kingdom. In the Asian countries-Burma, India, Japan and the Philippines, as well as in Greece, only a limited number of grants is available, and mature graduate candidates are preferred.

Further information about these awards and application blanks are available in the office of Fulbright advisers on college and university campuses.

### MIT Grad Is Winner In Vanguard Contest; Essay Is On Beacon

A 27-year-old Air Force lieutenant who received his Master of Science degree from MIT in June flew to Baltimore last week (September 26) to collect a \$2,500 check as second place winner in the Vanguard Satellite Essay Contest sponsored by The Martin Company.

1st Lt. Robert L. Howell, who is stationed now at Patrick Air Force Base, Florida, earned the award for his paper on "A Satellite Beacon Station". Another MIT student, Eugene Covert, received a \$500 check for winning honorable mention in the same contest. In each case, MIT receives a matching award, so the school will get a total of \$3,000 as a result of the contest.

The essay competition was inspired by Project Vanguard, the U.S. program to launch an artificial earth satellite for scientific research purposes. Martin is prime contractor for the giant three-stage rocket which will place the 20-inch satellite in or-

Winner of the top prize of \$5,000 was Theodore E. Lang, of Cal. Tech. He, Lt. Howell, and third place winner Eugene A. Mechtly, of Penn State, were brought to Baltimore for the presentation of awards by Martin's executive vice-president, William B. Bergen. Honorable mention awards were mailed to winners, and the matching checks for the colleges will be presented later.

Lt. Howell's essay, "A Satellite Beacon Station", discussed the possible use of a manmade satellite as a navigational aid to establish positions at sea with greater accuracy than is now possible by celestial navi-

Lt. Howell, a native of Clinton, Mo., graduated from the U.S. Naval Academy in 1952. After serving in Korea and Japan, he returned to this country and entered MIT in 1955 under a special Air Force program.

Oddly enough, Lt. Howell's present Air Force assignment is as a missile engineer at the very base in Florida from which the Martin-built Vanguard rocket will launch the U.S. earth satellite.



rushed hard. Walt Humann '59 gets the pass away to help SAE down AEPi 20-6.

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ON CAMPUS INTERVIEWS

Tues. and Wed., October 15-16 1:30-5:00 p.m., 9:00-12:00 M.

DEBATE SOCIETY

# Beaver Booters Deadlock Amherst Evans Scores Twice, Penna Once

Last Saturday at Springfield, Tech's varsity booters tied their first the MIT varsity booters will meet league game against Amherst College. The final score was 3-3.

Facing one of the stronger teams in the league, Tech got off to a slow start, as the Jeffs took the lead by scoring twice in the first quarter and again in the second. Both of the first two goals were kicked pointblank, preventing Beaver goalie, Rudy Segovia, to show his skill in the nets. Amherst's third goal was the result of a hard shot by their Right Outside while players from both teams stood in front of the goal.

The first goal for Tech came one minute before the end of the half, as Reinaldo DoVol '58 raced down the left sideline and passed to the center where Bill Evans '59 received the ball and tapped it through.

During the last half, MIT took better control of the game scoring once in each quarter. Half way through the third quarter Tech's Right Outside, Ernesto Macaya '60, took the ball along the sidelines and crossed it to Evans who once again sank it into the nets. Before the quarter was over, MIT came close to scoring again as Center Half-back Andrus Viilu '60 cannon-balled a direct kick just over the goal post. The last goal for the Engineers was booted in by Manael Penna '60 on a loop from the Right Wing who had received a long pass from Capt. Rod Brandt '58. At the end of the game there were two overtime periods of five minutes, but neither team was able to break the deadlock.

This coming Thursday at 4:00 p.m. B.U. here at Briggs Field.

MIT Lineup: Segovia-G Clive-R.F.B. Brandt-L.F.B. Comerford-R.H.B. Viilu-C.H.B. Macaya-R.O. Penna-R.I. Villavicencio—C.F. Rhee-L.I. DoVal-LO.

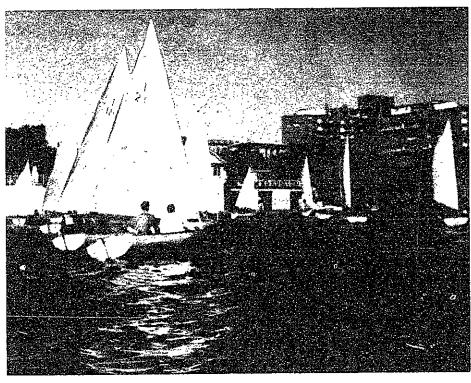
The first regular meeting of the Debate Society will be held Wednesday at 5:00 in room 2-132. All freshmen interested in debate and solo speech work should plan to attend.

#### HOCKEY RALLEY

There will be a varsity hockey rally in 1-190 on Thursday, October 10 at 5 p.m. All interested stickmen are urged to attend.

#### MONOPOLY

An MIT Monopoly Club is in the process of formation. Contact Lew Cohen, Bill Daly, or Lee Holloway.



MIT's Junior Varsity B Division skippers are shown at the start of their first race last Saturday on the Charles. Tech won both A and both B contests of the quadrangular meet.

#### YEAR REVIEWED

(Continued from page 3) He mentions that the undergraduate course in Meteorology has been dropped due to the need for more preparation in the physical sciences before

entering a concentrated field of study. Also mentioned are the new courses in the visual arts sponsored by the Schools of Architecture and Humanities and Social Studies. "These will provide an opportunity for students actually to participate in studio work and will also include lectures semi-

nars, and field trips, to gain an infi mate acquaintanceship with and understanding of the visual arts."

President Killian mentions the Work being done by Professor Jernie Zacharias assisted by Professor Fran cis Friedman to plan a new approach to the teaching of physics in the secondary school. "Physics is ap proached as a cultural subject rather than as an exercise in technology... to provide our young people . . . with some of the intellectual wealth science."

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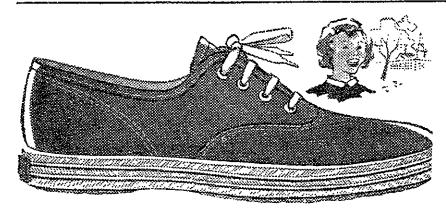
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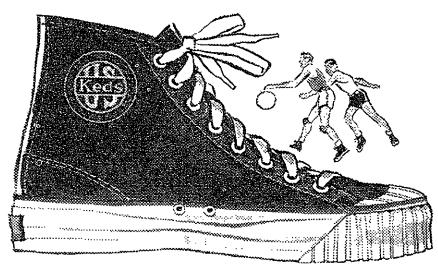
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### A Campus-to-Career Case History



Bill Tyer discusses features of a training program for operators with Miss Edith Sanders.

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That's Charles W. (Bill) Tyer talking. Bill graduated from Texas Christian University in 1953 with a B.S. in Commerce. He went right to work with Southwestern Bell in Fort Worth.

How did he make his choice? Here's what he says: "From what I'd seen it was an interesting business with tremendous room for expansion. And a big feature with me was the opportunity to choose my location. I wanted to work in the Fort Worth area.

"I came in under the Staff Assistant Program for college graduates. I spent several weeks in each of the company's five departments. Then I went back for six months of intensive training in our Traffic Department.

"After training, I was promoted. One of my first jobs was setting up and supervising a customer service improvement program.

"In January, 1956, I was again promoted. My present job is assistant to the District Traffic Superintendent. My responsibilities include instruction of PBX operators, employee and public relations, and scheduling operators to handle calls to and from 185,000 telephones.

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Bill Tyer is typical of the many young men who are finding their careers in the Bell System. Other interesting careers exist in the Bell Telephone Companies, Bell Telephone Laboratories, Western Electric and Sandia Corporation. Your placement officer has more information about these companies.



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